Amendments to the Specification:

Please replace paragraph [0021], with the following amended paragraph:

[0021] In particular, the invention provides for a copolymer comprising an isoolefin and an alkylstyrene, the copolymer having a copolymer sequence distribution defined by:

$$F = 1 - \{m A / (1 + mA)\}$$

wherein **m** is the copolymer sequence distribution parameter; **A** is the molar ratio of alkylstyrene to isoolefin in the copolymer; and
F is the isoolefin-alkylstyrene-isoolefin-~~alkylstyrene~~ triad fraction in the copolymer; wherein m is from less than 38.

Please replace paragraph [0022] with the following amended paragraph:

[0022] In other embodiments, the invention provides for a copolymer produced by the process comprising contacting an isoolefin, preferably isobutylene, an alkylstyrene, one or more Lewis acid(s), one or more initiator(s), and a diluent comprising one or more hydrofluorocarbon(s) (HFC's); the copolymer having a copolymer sequence distribution defined by:

$$F = 1 - \{m A / (1 + mA)\}$$

wherein **m** is the copolymer sequence distribution parameter; **A** is the molar ratio of alkylstyrene to isoolefin in the copolymer; and
F is the isoolefin-alkylstyrene-isoolefin-~~alkylstyrene~~ triad fraction in the copolymer; wherein m is from less than 38.

Please replace paragraph [0089] with the following amended paragraph:

[0089] For the purposes of this invention, the relationship between the triad fraction of an isoolefin and a p-alkylstyrene and the mol% of p-alkylstyrene incorporated into the copolymer is described by the copolymer sequence distribution equation described below and is characterized by the copolymer sequence distribution parameter, m.

$$F = 1 - \{m A / (1 + mA)\}$$

where: **m** is the copolymer sequence distribution parameter,

A is the molar ratio of p-alkylstyrene to isoolefin in the copolymer and,

F is the isoolefin-p-alkylstyrene-isoolefin~~-p-alkylstyrene~~ triad fraction in the copolymer.